

Optimizing personnel selection, Unmanned Aircraft Systems

Naval Medical Research Unit Dayton

Story by [Megan Mudersbach](#)

Date: 12.18.2018

Posted: 12.18.2018 11:18

News ID: 304097

DAYTON, Oh. – A multi-institution research team completed a four-year collaborative project to develop a reliable and valid selection test for unmanned aircraft system (UAS) operator candidates within the Navy and Marine Corps with applicability across the Department of Defense (DoD). The project is called Selection of UAS Personnel, or SUPer.

“The use of UAS has increased significantly in recent years across the DoD. Unlike manned aviation, these platforms represent a unique new domain which currently has no validated tools for selecting and classifying UAS operator candidates,” said Commander Tatana Olson, SUPer’s government lead and deputy director of Naval Aerospace Medical Research Laboratory (NAMRL) at Naval Medical Research Unit Dayton (NAMRU-Dayton)

Sponsored by the Office of Naval Research, Cmdr. Olson and Dr. Henry Williams, NAMRL senior scientist, worked with Naval Aerospace Medical Institute (NAMI), Air Force Personnel Center, 711th Human Performance Wing, U.S. Naval Air Systems Command and Georgia Institute of Technology and transitioned the SUPer test battery to NAMI where it will be maintained and administered by NAMI for future UAS operator selection applications.

SUPer, a large and complex study, involved lab data collection at Georgia Tech and field data collection at 11 sites across the country. Portions of the prototype selection test were administered to more than 1,500 individuals, assessing memory, spatial, math/quantitative, science/technical knowledge, and perceptual speed.

Effective personnel assessment and selection procedures identify individuals who possess a minimum level of qualifications and the aptitude to acquire the relevant knowledge, skills, and abilities to perform specific tasks and missions.

“Done properly, selection procedures minimize training attrition, improve retention, and enhance the quality and satisfaction of the workforce, ultimately reducing overall manpower costs,” said Cmdr. Olson.

Participants for the lab studies at Georgia Tech consisted of people between the ages of 18 and 25, and were conducted to assess the selection battery’s construct validity, reliability, and predictive validity using a UAS simulation developed for the project. Participants for the field studies consisted of UAS trainees, basic recruits, flight students, and UAS operators assessed the extent to which performance on the test was predictive of work and training outcomes. Results showed that the ability factors assessed in the test battery were reliably and significantly related to individual differences in UAS training performance and completion.

By integrating with the Navy’s existing aviation selection testing architecture the test can be delivered via the Navy’s secure web-based test delivery platform in just over one hour, according to Cmdr. Olson.

“As the Department of the Navy moves forward on executing its strategic roadmap for unmanned systems, this test will ensure the selection of the most capable UAS operator candidates and serve as a critical component of the successful development and management of UAS career fields across the Navy and Marine Corps,” said Cmdr. Olson.